

**Preventive Maintenance Contract
Scope of Work
For
Caterpillar generators

United States Embassy Abuja**

TABLE OF CONTENTS

Section 1 - The Schedule

- SF 1449 cover sheet
- Continuation To SF-1449, RFQ Number XXXXXXXXXXXX Prices, Block 23
- Continuation To SF-1449, RFQ Number XXXXXXXXXXXX, Schedule Of Supplies/Services, Block 20
- Description/Specifications/Work Statement
- Exhibit A - List of Tasks to be Performed (Statement of Work) and Equipment List

Section 2 - Contract Clauses

- Contract Clauses
- Addendum to Contract Clauses - FAR and DOSAR Clauses not Prescribed in Part 12

Section 3 - Solicitation Provisions

- Solicitation Provisions

Section 4 - Evaluation Factors

- Evaluation Factors

Section 5 - Representations and Certifications

- Offeror Representations and Certifications
- Addendum to Offeror Representations and Certifications - FAR and DOSAR Provisions not Prescribed in Part 12

SECTION 1 - THE SCHEDULE

1.0 DESCRIPTION

The American Embassy in **Abuja Nigeria** requires preventive maintenance services for Caterpillar Generators. These services shall result in all systems being serviced under this agreement being in good operational condition when activated. This work is to be performed on systems accessing the UB1 area of the building. Please see section 6.2.3 for security requirements.

1.1. TYPE OF CONTRACT

This is a firm fixed price contract payable entirely in Dollars. Prices for all Contract Line Item Numbers (CLIN) shall include proper disposal of toxic substances as per Item 8.3 where applicable. No additional sums will be payable for any escalation in the cost of materials, equipment or labor, or because of the contractor's failure to properly estimate or accurately predict the cost or difficulty of achieving the results required. The contract price will not be adjusted due to fluctuations in currency exchange rates.

1.2. PERIOD OF PERFORMANCE

The contract will be for a period of one-year, with a maximum of four one-year optional periods of performance and will be expected to commence no later than (June 1, 2021).

2.0 PRICING

The rates below include all costs associated with providing preventive maintenance services in accordance with the attached scope of work, and the manufacturer's warranty including materials, labor, insurance (see FAR 52.228-4 and 52.228-5), overhead, profit and GST (if applicable).

2.1. Base Year. The Contractor shall provide the services shown below for the base period of the contract and continuing for a period of 12 months.

CLIN	Description	Quantity of Equipment	Type of services	No. of service	Unit price / service (\$)	Total per year (\$)
	1000KVA C32 Catapillar diesel Generator G-1	1	250hrs	4		
	1000KVA Catapillar diesel Generator G-2	1	250hrs	4		
	1000KVA C32 Catapillar diesel Generator G-3	1	250hrs	4		
	Total Base Year					

2.2. Option Year 1. The Contractor shall provide the services shown below for Option Year 1 of the contract, and continuing for a period of 12 months.

CLIN	Description	Quantity of Equipment	Type of services	No. of service	Unit price / service (\$)	Total per year (\$)
	1000KVA C32 Catapillar diesel Generator G-1	1	250hrs	4		
	1000KVA Catapillar diesel Generator G-2	1	250hrs	4		
	1000KVA C32 Catapillar diesel Generator G-3	1	250hrs	4		
	Total Option Year 1					

2.3. Option Year 2. The Contractor shall provide the services shown below for Option Year 2 of the contract, and continuing for a period of 12 months.

CLIN	Description	Quantity of Equipment	Type of services	No. of service	Unit price / service (\$)	Total per year (\$)
	1000KVA C32 Catapillar diesel Generator G-1	1	250hrs	4		
	1000KVA C32 Catapillar diesel Generator G-2	1	250hrs	4		
	1000KVA C32 Catapillar diesel Generator G-3	1	250hrs	4		
	Total Option Year 2					

2.4. Option Year 3. The Contractor shall provide the services shown below for Option Year 2 of the contract, and continuing for a period of 12 months.

CLIN	Description	Quantity of Equipment	Type of services	No. of service	Unit price / service (\$)	Total per year (\$)
	1000KVA C32 Catapillar diesel Generator G-1	1	250hrs	4		
	1000KVA C32 Catapillar diesel Generator G-2	1	250hrs	4		
	1000KVA C32 Catapillar diesel Generator G-3	1	250hrs	4		
	Total Option Year 3					

2.4. Total for all years:

Base Year	\$ _____
Option Year 1	\$ _____
Option Year 2	\$ _____
Option Year 3	\$ _____

2.5. Repair option. Repairs are NOT included under this agreement (see 7.1.3) and are to be done outside this contract. However, we would like to have current labor rates in the event that there is an issue discovered during the preventive maintenance of the specified equipment. Please provide your current labor rates in the Repair Option fields below. As stated in 7.1.3 any necessary repairs or parts will be submitted for approval and then billed against a separate PO. The Contractor is not approved to do any additional work without approval.

Repair Labor Rates

Base Year	\$ _____/hr
Option Year 1	\$ _____/hr
Option Year 2	\$ _____/hr
Option Year 3	\$ _____/hr

3.0 NOTICE TO PROCEED

After Contract award and submission of acceptable insurance certificates and copies of all applicable licenses and permits, the Contracting Officer will issue a Notice to Proceed. The Notice to Proceed will establish a date

(a minimum of ten (10) days from date of Contract award unless the Contractor agrees to an earlier date) on which performance shall start.

DESCRIPTION/SPECIFICATION/WORK STATEMENT

4.0 EQUIPMENT AND PERFORMANCE REQUIREMENTS

4.1. The American Embassy in Abuja, Nigeria requires the Contractor to maintain the following systems in a safe, reliable and efficient operating condition. Please see equipment list included in Exhibit A for a more detailed description.

1) Three units of 1000 KVA C32 series Caterpillar generators.

4.2. The Contractor shall provide all necessary managerial, administrative and direct labor personnel, as well as all transportation, equipment and tools required to perform inspection, maintenance, and component replacement as required to maintain the systems in accordance with this work statement. Under this Contract the Contractor shall provide:

- The services of trained and qualified technicians to inspect, adjust, and perform scheduled preventive maintenance.

4.3. Performance Standards

The generators should be clean and in good operating condition upon completion of the service. The preventive maintenance service should result in the parts of the system serviced being in a condition to operate efficiently and effectively.

5.0 HOURS OF PERFORMANCE

5.1. The Contractor shall maintain work schedules. The schedules shall take into consideration the hours that the staff can effectively perform their services without placing a burden on the security personnel of the Post. The Contractor shall deliver standard services between the hours of (8:00 AM) and (4:00PM). Below is a list of the holidays.

Month	Date/Day of the Week	Holiday	US or Nigerian Holiday
JAN	01 / Friday	New Year's Day	US / Nigeria
JAN	18 / Monday	Martin Luther King Day	US
FEB	15 / Monday	Presidents' Day	US
APR	2 / Friday	Good Friday	Nigeria
APR	5 / Monday	Easter Monday	Nigeria
MAY	01 / Saturday**	Workers' Day**	Nigeria
MAY	13 / Thursday**	Eid-El-Fitri **	Nigeria
MAY	31 / Monday	Memorial Day	US

JUN	12 / Saturday **	Democracy Day**	Nigeria
JUL	5 / Monday	Independence Day	US
JUL	20 / Tuesday**	Eid-El-Kabir**	Nigeria
SEP	06 / Monday	Labor Day	US
OCT	01 / Friday	Independence Day	Nigeria
OCT	11 / Monday	Columbus Day	US
OCT	19 / Tuesday**	Eid-El-Maulud**	Nigeria
NOV	11 / Thursday	Veterans Day	US
NOV	25 / Thursday	Thanksgiving	US
DEC	24/Friday	Christmas Day	US / Nigeria
DEC	27/Monday**	Boxing Day**	Nigerian

US = American Holidays; Nigeria = Nigerian Holidays; US & Nigeria = American and Nigerian Holidays.

** These dates/holidays are subject to change.

Please note that Eid-El-Fitri and Eid-El-Kabir are both two-day holidays.

ACCESS TO GOVERNMENT BUILDINGS AND STANDARDS OF CONDUCT

6.1 General. The Contractor shall designate a representative who shall supervise the Contractor's technicians and be the Contractor's liaison with the American Embassy. The Contractor's employees shall be on-site only for contractual duties and not for any other business or purpose. Contractor employees shall have access to the equipment and equipment areas and will be escorted by Embassy personnel.

6.2 Personnel Security. The Government reserves the right to deny access to U.S.-owned and U.S.-operated facilities to any individual. The Contractor shall provide the names, biographic data and police clearance on all Contractor personnel who shall be used on this Contract prior to their utilization. Submission of information shall be made within 5 days of award of contract. **No technician will be allowed on site without prior authorization. Note: this may include cleared personnel if advance notice of visit is not given at least one week before the scheduled visit.**

6.2.1 Vehicles. Contractor vehicles will not be permitted inside the embassy compound without prior approval. If you need to have vehicle access please submit your vehicle information (Make, Model, License Plate #) along with a written justification as to why access is necessary. This should be submitted to the Facility Manager at least one (1) week prior to the visit.

6.2.2 Government shall issue identity cards to Contractor personnel, after they are approved. Contractor personnel shall display identity card(s) on the uniform at all times while providing services under this contract. These identity cards are the property of the US Government. The Contractor is responsible for their return at the end of the contract, when an employee leaves Contractor service, or at the request of the Government. The Government reserves the right to deny access to U.S.-owned and U.S.-operated facilities to any individual.

6.3 Security Clearances. All Work under this contractor that are designated as non-CAA areas may be performed by un-cleared American or local workers. However, cleared American Construction personnel as needed to complete the services shall perform all work done in CAA and PCC areas. The Contractor shall work closely with the COR, the Post Facility Manager [FM] or the General Services Officer [GSO].

6.4 Standards of Conduct

6.4.1 General. The Contractor shall maintain satisfactory standards of employee competency, conduct, cleanliness, appearance, and integrity and shall be responsible for taking such disciplinary action with respect to employees as may be necessary. Each Contractor employee shall adhere to standards of conduct that reflect credit on themselves, their employer, and the United States Government. The Government reserves the right to direct the Contractor to remove an employee from the worksite for failure to comply with the standards of conduct. The Contractor shall immediately replace such an employee to maintain continuity of services at no additional cost to the Government.

6.4.3 Neglect of Duties. Neglect of duties shall not be condoned. This includes sleeping while on duty, unreasonable delays or failures to carry out assigned tasks, conducting personal affairs during duty hours and refusing to render assistance or cooperate in upholding the integrity of the worksite security.

6.4.4 Disorderly Conduct. The Contractor shall not condone disorderly conduct, use of abusive or offensive language, quarreling, and intimidation by words, actions, or fighting. Also included is participation in disruptive activities that interfere with normal and efficient Government operations.

6.4.5 Intoxicants and Narcotics. The Contractor shall not allow its employees while on duty to possess, sell, consume, or be under the influence of intoxicants, drugs or substances which produce similar effects.

6.4.6 Criminal Actions. Contractor employees may be subject to criminal actions as allowed by law in certain circumstances. These circumstances include but are not limited to the following actions: falsification or unlawful concealment, removal, mutilation, or destruction of any official documents or records or concealment of material facts by willful omission from official documents or records; unauthorized use of Government property, theft, vandalism, or immoral conduct; unethical or improper use of official authority or credentials; security violations; organizing or participating in gambling in any form; and misuse of weapons.

6.4.7 Key Control. The Contractor **will not** be issued any keys.

6.4.8 Notice to the Government of Labor Disputes. The Contractor shall inform the COR of any actual or potential labor dispute that is delaying or threatening to delay the timely performance of this contract.

7.0 SCHEDULED PREVENTIVE MAINTENANCE

7.1. General

7.1.1. The Contractor shall perform preventive maintenance as outlined in Exhibit A - STATEMENT OF WORK. The objective of scheduled preventive maintenance is to eliminate system malfunction, breakdown and deterioration when units are activated/running.

7.1.2. The contractor shall provide tools and test equipment necessary to perform work under this contract. US Embassy shall provide all expendable supplies including but not limited to oil and fuel filters, air filters, water separator filters, radiator coolant and lubricating oil.

7.1.3. Exclusion. This contract does NOT include repair of equipment and replacement of hardware (e.g. bearings, pistons, piston rings, crankshaft, and gears.) **Hardware replacements will be separately priced out by the Contractor for the Government's approval and acceptance.** The Government has the option to accept or reject the Contractor's quote for parts and reserves the right to obtain similar spare parts from other competitive sources. If required by the Government, the Contractor shall utilize Government-purchased spare parts, if awarded the work. Such repairs/replacements will be accomplished by a separate purchase order. However, this exclusion does not apply if the repair is to correct damage caused by Contractor negligence.

7.1.4. Replacement/repair of any electronic or electrical parts must be approved by the COR prior to installation of the part. If the Contractor proceeds to replace any electronic or electrical parts without COR approval, the Contractor shall de-install the parts at no cost to the Government.

7.2 Checklist Approval

The Contractor shall submit to the COR a schedule and description of preventive maintenance tasks which the Contractor plans to provide. The Contractor shall prepare this schedule and task description in a checklist format for the COR's approval prior to contract work commencement.

7.2.1. The Contractor shall provide trained technicians to perform the service at frequencies stated in Exhibit A and on the equipment called out in this SOW. The technician shall sign off on every item of the checklist and leave a copy of this signed checklist with the COR or the COR's designate after the maintenance visit.

7.2.2. It is the responsibility of the Contractor to perform all manufacturers' recommended preventive maintenance as well as preventive maintenance recommended by the manufacture technical manuals for the respective equipment.

8.0 PERSONNEL, TOOLS, CONSUMABLE MATERIALS AND SUPPLIES

The Contractor shall provide trained technicians with the appropriate tools and testing equipment for scheduled maintenance, safety inspection, and safety testing as required by this Contract. The Contractor shall provide all of the necessary tools and testing equipment to maintain, service, inspect and test all the systems to be maintained. The expendable supplies will be provided by the US Embassy.

8.1 Contractor furnished materials will include but not limited to appropriate tools, testing equipment, safety shoes and apparel for technicians, hands, hearing and eye protection, MSDS, cleaning material and oil spill containment kit. Expendable/consumable items (e.g. hoses, belts, oil, chemicals, coolant, filters (Air, Fuel, Oil), generator starting batteries, grease, sealant, thermostat, fuse), will be furnished by the Embassy and maintained in the onsite inventory.

8.2 Repairs. Repairs are not included in this contract. See Item 7.1.3. Exclusions.

9.0 Software, Licenses and Passwords. Copies of any and all software and licenses needed to control or to adjust the communications module shall be given to the post upon completion of the work.

10. DELIVERABLES

The following items shall be delivered under this contract:

Description	QTY	Delivery Date	Deliver to
Names, biographic data, police clearance on Contractor personnel (#6.2)	1	5 days after contract award	COR
Certificate of Insurance (#10.2)	1	10 days after contract award	CO
Checklist signed by Contractor's employee (#7.2.1)	1	After completion of each maintenance service	COR

Invoice (#15)	1	After completion of each maintenance service	COR
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11.0 INSURANCE REQUIREMENTS

11.1 Personal Injury, Property Loss or Damage (Liability). The Contractor assumes absolute responsibility and liability for any and all personal injuries or death and property damage or losses suffered due to negligence of the Contractor's personnel in the performance of this Contract

The Contractor's assumption of absolute liability is independent of any insurance policies.

11.2 Insurance. The Contractor, at its own expense, shall provide and maintain during the entire period of performance of this Contract, whatever insurance is legally necessary. The **Contractor shall carry the following minimum insurance:**

Public Liability Insurance

Bodily Injury	\$XXXXXX per occurrence	\$XXXX	Cumulative
Property Damage	\$XXXXXX per occurrence	\$XXXX	Cumulative

Workers' Compensation and Employer's Liability

11.3 Worker's Compensation Insurance. The Contractor agrees to provide all employees with worker's compensation benefits as required under local laws (see FAR 52.228-4 "Worker's Compensation and War-Hazard Insurance Overseas").

12.0 LOCAL LAW REGISTRATION

If the local law or decree requires that one or both parties to the contract register the contract with the designated authorities to insure compliance with this law or decree, the entire burden of this registration shall rest upon the Contractor. Any local or other taxes which may be assessed against the Contract shall be payable by the Contractor without Government reimbursement.

13.0 QUALITY ASSURANCE PLAN (QAP).

13.1 Plan. This plan is designed to provide an effective surveillance method to promote effective Contractor performance. The QAP provides a method for the Contracting Officer's Representative (COR) to monitor Contractor performance, advise the Contractor of unsatisfactory performance, and notify the Contracting Officer of continued unsatisfactory performance. The Contractor, not the Government, is responsible for management and quality control to meet the terms of the Contract. The role of the Government is to conduct quality assurance to ensure that Contract standards are achieved.

Performance Objective	PWS Para	Performance Threshold
<u>Services</u> . Performs all services set forth in the performance work statement (PWS)	1 thru 12	All required services are performed and no more than one (1) customer complaint is received per month

13.2 Surveillance. The COR will receive and document all complaints from Government personnel regarding the services provided. If appropriate, the COR will send the complaints to the Contractor for corrective action.

13.3 Standard. The performance standard is that the Government receives no more than one (1) customer complaint per month. The COR shall notify the Contracting Officer of the complaints so that the Contracting Officer may take appropriate action to enforce the inspection clause (FAR 52.212-4, Contract Terms and Conditions-Commercial Items), if any of the services exceed the standard.

13.4. Procedures.

13.4.1 If any Government personnel observe unacceptable services, either incomplete work or required services not being performed, they should immediately contact the COR.

13.4.2 The COR will complete appropriate documentation to record the complaint.

13.4.3 If the COR determines the complaint is invalid, the COR will advise the complainant. The COR will retain the annotated copy of the written complaint for his/her files.

13.4.4 If the COR determines the complaint is valid, the COR will inform the Contractor and give the Contractor additional time to correct the defect, if additional time is available. The COR shall determine how much time is reasonable.

13.4.5 The COR shall, as a minimum, orally notify the Contractor of any valid complaints.

13.4.6 If the Contractor disagrees with the complaint after investigation of the site and challenges the validity of the complaint, the Contractor will notify the COR. The COR will review the matter to determine the validity of the complaint.

13.4.7 The COR will consider complaints as resolved unless notified otherwise by the complainant.

13.4.8. Repeat customer complaints are not permitted for any services. If a repeat customer complaint is received for the same deficiency during the service period, the COR will contact the Contracting Officer for appropriate action under the Inspection clause.

14. TRANSITIONS/CONTACTS

Within five days after contract award, the Contracting Officer may ask the contractor to develop a plan for preparing the contractor to assume all responsibilities for preventive maintenance services. The plan shall establish the projected period for completion of all clearances of contractor personnel, and the projected start date for performance of all services required under this contract. The plan shall assign priority to the selection of all supervisors to be used under the contract.

14.1 On site contact. The following are the designated contact personnel between the US Embassy and the Contractor

Facility Manager:

Heroux, Donald J

08055192222

HerouxDJ@state.gov

Technical Specialist:

1. Patrick Ayalogu,

08036591084,

AyaloguPC@state.gov

2. Okhaigbe Fatairu,

07051092113,

Okhaigbef@state.gov

15. SUBMISSION OF INVOICES

The Contractor shall submit an invoice after each preventive maintenance service has been performed. Invoices must be accompanied by a signed copy of the Maintenance Checklist for the work performed including parts replacement and break down calls, if any. No invoice for preventive maintenance services will be considered for payment unless accompanied by the relevant documentation.

The Contractor should expect payment 30 days after completion of service or 30 days after receipt of invoice at the Embassy's payment office, whichever is later. Invoices shall be sent to:

AMERICAN EMBASSY
NigeriaFMCinvoices@state.gov,
Financial Management Office US Embassy Abuja,

Exhibit A - - STATEMENT OF WORK

LOW VOLTAGE DIESEL STANDBY GENERATORS

I. GENERAL INFORMATION:

The United States Embassy in Abuja requires professional services and contractor cost proposals to perform preventive maintenance services of the facility's standby generator systems.

II. PROJECT REQUIREMENTS:

The Contractor shall perform preventive maintenance as described in this STATEMENT OF WORK. The objective of scheduled preventive maintenance is to eliminate system malfunction, breakdown and deterioration when units are activated/running.

DESCRIPTION OF EQUIPMENT *:

- 1) Three units of 1000 KVA C32 series Caterpillar generators.

III. GENERAL REQUIREMENTS:

The contractor shall provide the labor required to carry out all preventive maintenance as outlined in this SOW. Embassy staff have service manuals for Generators on-site. The contractor shall confirm on-site manuals are complete and current and provide the Contracting Officer's Representative (COR) a listing of any missing or out of date manuals.

IV. SCOPE OF WORK - - GENERATOR PREVENTIVE MAINTENANCE

The contractor shall provide all supervision, labor, tools, and equipment to perform preventive maintenance. All personnel working in the vicinity shall wear and /or use appropriate safety protection while work is performed. Any questions or injuries shall be brought to the attention of the Post COR and Occupation Safety and Health Officer (POSHO). Material Safety Data Sheets (MSDS) shall be provided by the contractor for all HAZMAT materials. Copies will be provided to the COR for approval.

The systems and components to be maintained include diesel generator prime mover, alternator, fuel, cooling, ventilation and lubrication systems. The attached equipment list provides details.

1. The contractor shall provide the COR with a list of necessary parts and materials.
2. The U.S. Govt. shall provide oil, fluids, filters and preventive maintenance parts.

3. The contractor shall provide emergency assistance for generator support, priced at an hourly rate, within **24 hours** of being contacted by the COR.
4. The Government **will** provide load banks for generator testing.

**Load bank specification is
415V 3ph 50Hz 3wire 550KW/412.5KVAR
SIMPLX Trident 550
S/N 53214-03-41**

If any discrepancies are found with the generator systems that are not covered under this scope of work, the contractor shall provide the following:

1. Detailed report noting the discrepancy found.
2. Bill of Materials (BOM) to include component name, quantity, part #, and price for any repair material required and material lead time.
3. Price quote for repair labor.

SAFETY & SPECIAL INSTRUCTIONS:

1. Use appropriate personal protective equipment (PPE) when performing work
2. Check all work areas, tools, and equipment to ensure unsafe conditions are eliminated or guarded against.
3. Follow site safety procedures.
4. Schedule maintenance with operating personnel and affected offices (security).
5. Follow approved lockout/tag out procedures.
6. Lockout and disconnect the main power before tightening the main supply lugs in order to avoid the hazard of electrical shock, which could result in serious personal injury or death.
7. Review and follow the manufacturer's instructions.
8. Record results in the equipment history log.
9. Remove lockout/tag out in accordance with appropriate procedures.
10. Report all incidents and near miss incidents to COR and assist as requested in the investigation and corrective action.

At a minimum, the following work shall be completed:

Notes:

- Contractor shall submit to the COR for review, work sheet/checklist that will be used for performing maintenance service.
- A discrepancy report shall be submitted to the COR immediately upon discovery of any condition that could result in equipment failure.
- Test and inspection report shall be submitted to the COR within three days of completing work.
- Laboratory report for all chemicals (oil, coolant or fuel analysis) shall be submitted to the COR within 30 days from date of service.

Maintenance Interval Schedule

A. Semi-annual Schedule

1. Conduct visual inspection around generator.
 - a. Check for evidence of leaks, damage, loose or missing hardware.
 - b. Inspect engine and generator wiring harness for wear and damage.
 - c. Inspect supports and spring isolators for soundness and stability.
 - d. Inspect system for corrosion.
 - e. Hoses and Clamps – Inspect and replace if needed.
 - f. Belts – Inspect and adjust/replace if needed.

- g. Inspect all fuel, oil, and water piping for secure mounting and leaks.
 - h. Inspect exhaust piping and muffler insulation.
 - i. Check / service air cleaner
2. Batteries.
- j. Battery charger – Inspect operation and clean.
 - k. Battery electrolyte level and specific gravity – Check and adjust. Add distilled water as needed.
 - l. Perform battery load test.
 - m. Clean battery terminals and lugs (apply grease on terminal connections).
3. Fluids and Filters.
- Cooling System Coolant Level - Check and adjust.
 - Coolant conditioner (DCA/SCA) / Antifreeze protection – Check and adjust to specs.
 - Jacket Water Heater - Check proper operation.
 - Water pump - Check
 - Engine Oil Level - Check and add if needed.
 - Fuel/water separators – Drain water.
 - Engine Air Cleaner Service Indicator – Check, replace filter if needed.
4. Generator Room.
- Fuels – Inspect and treat fuel if needed, check fuel level, drain water and sediment.
 - Test fuel for degradation, water and microbial contamination.
 - Test autofill system, return to tank and alarms.
 - Check tank vents & overflow piping for obstructions
 - Test alarms and or pumps in secondary containment.
 - Check hoses, piping and connections Space Heater/Room exhaust fan - Check for proper operation.
 - Air intake/exhaust – Ensure nothing obstructs airflow; louvers are free and operate properly.
5. Control Panel/generator cabinet.
- Open all cabinets; remove panel covers to clean/inspect.
 - Clean dust and vacuum all the controls, meters, switching mechanism components, interior buswork, Remote Start control panel, Annunciator and connecting lugs. Inspect/Check buswork and supporting hardware for carbon tracking, cracks, corrosion, or any type of deterioration.
 - Check all control wiring and power cables (especially wiring between or near hinged door) for sign of wear and deterioration.
 - Check the cabinet interior for loose hardware – tighten connections.
 - Electrical Connections - Check tightness
 - Clean and remove dust from panels.
6. Run unit – No load.
- Run the generator with no load for 10 minutes.
 - Remote Start Panel-Inspect and test operation. Inspect and clean.
 - Check the generator for unusual conditions, such as: excessive vibration, leaks, smoke.
 - Verify all gauges and indicators are normal and functioning properly.
 - Check all indication lights, replace any defective bulbs.
 - Check operation of safeties & alarms
7. Start unit and run under load for 1 hour.
- Unit should be run under facility load if COR authorizes to test and exercise entire system.
 - If facility load is not permissible or is not a minimum of 50% of rated capacity or if wet stacking is prevalent, the unit shall be exercised with a load bank to a minimum 75% capacity for 2 hours.
 - Automatic Start/Stop – Inspect.
 - Check louvers, shutters and room exhaust fans for proper operation.
 - Generator Set Vibration – Inspect.
 - n. Read and record all gauges/meters.
 - o. Record load readings – Voltage, amps, frequency, power factor.

- p. Check exhaust for excessive black or white smoke.
 - q. Check turbocharger for vibrations or any abnormal noise during operation.
 - r. Check generator bearing for noise and overheating.
 - s. Check exhaust manifold, flexible exhaust, muffler, and piping for leaks and secure mountings.
 - t. Check Crankcase breather/Blow By
 - u. Check / service air cleaner
8. Additional.
- Ensure system is left in proper position for automatic start and transfer.
 - Clean generator and generator room. Wash radiator if necessary.
 - Annotate date, hours and maintenance in Generator log, complete maintenance checklist and deficiency report and brief COR.
 - Perform any additional maintenance tasks as recommended in the manufacture's operation and maintenance manuals.
 - Submit Service Inspection and Test Report to COR.

B. Annual Schedule or every 250hrs, whichever comes first:

1. Conduct semi- annual / monthly PM service
2. Engine Air Cleaner Elements – Replace.
3. Engine Crankcase Breather – Clean.
4. Engine Oil Sample - Obtain and perform analysis. Submit report to COR.
5. Engine Oil and Filter(s) – Replace.
6. Annotate date and hours on all filters when replaced.
7. Fuel Filters and Water Separators – Replace.
 - a. To include filters to day tanks if applicable.
8. Obtain fuel sample at day tank and storage tank for analysis.
9. Radiator – Clean (follow manufacturer's recommendation).
10. Intake louvers and ducts – Inspect/Clean (follow manufacturer's recommendation). Replace filters.
11. Cooling System Coolant Sample - Test
12. Cooling System Supplemental Coolant Additive (SCA) - Test/Add
13. Coolant filter – Change if applicable
14. Crankshaft Vibration Damper - Inspect
15. Engine Protective Devices - Check
16. Turbocharger – Inspect/Check
17. Clean and lubricate fuel pump linkages if applicable.
18. Fan bearing – Inspect/Grease.
19. Generator – Check for moisture, dust, oil, grease, and debris on main stator windings, exciter. Check commutator & slip rings, rotor & stator, bearings, bearing lubrication, voltage regulator. Measure & record resistance readings of windings with insulation tester (Megger). Clean as needed
20. Calibrate voltage-sensing relays/devices.
21. Check injector pump and injectors for flow rate pressure
22. Clean / Test Aftercooler Core
23. Check Rotating Rectifier
24. Inspect Alternator
25. Inspect / Check Varistor

C. Additional maintenance required per manufacturers recommendations and service interval:

1. Generator bearing – Inspect/Grease as recommended by manufacturer's maintenance schedule.
2. Engine Generator Batteries – Replace if 3 years old.
3. Cooling System Coolant – Flush system and replace per manufacturer's maintenance schedule with coolant per manufacturers specifications.

